



VegetationTM Manager

ORYZALIN 4 PRO

Active Ingredient:

Oryzalin: 3,5-dinitro-N ⁴ N ⁴ -	
dipropylsulfanilamide	.41.0%
INERT INGREDIENTS:	<u>.59.0%</u>
TOTAL:	<u>100.0%</u>

EPA Reg. No. 72167-15-74477

EPA Est. No. 37429-GA-1

Contains 4 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

See inside booklet for complete Precautionary Statements, Directions for Use, and Conditions of Sale and Warranty.

**Manufactured for Vegetation Management LLC
2901-12 Rivendell
Knoxville, TN 37922**

Net contents: 2.5 gallons (9.48 liters)

Vegetation Manager Oryzalin 4 Pro

A selective preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in:

- Landscape Ornamentals
- Container Grown Ornamentals
- Field Grown Ornamentals
- Drainage Areas Under Shadehouse Benches
- Ornamental Bulbs
- Ground Covers/Perennials
- Christmas Tree Plantations
- Noncropland and Industrial Sites
- Established Warm Season Turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass and Zoysiagrass)
- Tall Fescue (warm season areas)
- Non-bearing fruit and nut trees and nonbearing vineyards

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks
- Mixers and loaders must wear a chemical-resistant apron in addition to other PPE.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

This pesticide is toxic to fish. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spills.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirement in this box only applies to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Agricultural Use Requirements (cont.)

Workers may enter treated areas without required PPE during the reentry interval following 1/2 to 1 inch of rainfall or irrigation, if they are performing tasks that do not involve contact with the soil subsurface; otherwise, PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: Keep all persons, children and pets out of treated area until sprays have dried.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

Pesticide Disposal: Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

Oryzalin 4 Pro herbicide is a preemergence surface-applied product for the control of many annual grasses and broadleaf weeds in ornamental plantings, bulbs, ground covers/perennials, established warm-season turfgrass, Christmas tree plantations, non-bearing trees and vines, and noncropland and industrial sites.

Oryzalin 4 Pro is orange in color and may cause temporary discoloration of sprayed surfaces. If this discoloration is undesirable, it may be altered by using a commercially available colorant such as Blazon or removed by

spraying surface with water or washing with an industrial cleaner immediately after application. Oryzalin 4 Pro may also be applied with mulch colorants, such as Mulch Magic or Nu-Mulch.

Treatment of Plant Species Not Listed on the Label for Oryzalin 4 Pro

Users who wish to use Oryzalin 4 Pro on plant species not recommended on this label may determine the suitability for use by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury during 30-60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. The user assumes responsibility for any plant damage or other liability resulting from use of Oryzalin 4 Pro on plant species not recommended on this label.

Aerial Application: Do not aerially apply this product.

Chemigation: Do not apply this product through any type of irrigation system.

Grazing: Do not graze or feed forage from treated areas to livestock.

Precaution: Avoid spray drift to non-target areas when applying Oryzalin 4 Pro. Spray drift may result in reduced emergence of non-target plants adjacent to the treated area. Poor weed control may result if directions are not followed. Over-application may result in crop injury or excessive soil residue.

APPLICATION

Soil Preparation

Oryzalin 4 Pro controls weeds growing from seed. Oryzalin 4 Pro will not control emerged weeds. Oryzalin 4 Pro does not control established weeds, weeds growing from stolons, rhizomes, or root pieces. Therefore, areas to be treated should be free of emerged weeds. Weed residues, pruning, and trash should be thoroughly mixed into the soil or removed prior to treatment. In field applications, the soil should be in good till and free of clods at the time of application.

Ground Application: Apply Oryzalin 4 Pro as a directed spray to the soil surface or over the top of plants. Use only a properly calibrated, low-pressure, herbicide sprayer that will apply the spray uniformly. Use screens no finer than 50 mesh in nozzles and in-line strainers. Apply the appropriate rate of Oryzalin 4 Pro as outlined in "Approved Uses" section of this label.

In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of Oryzalin 4 Pro to the treated area. The volume of water used is not critical as long as the desired rate of Oryzalin 4 Pro is delivered uniformly across the area treated. When calibrating, determine the volume of water delivered by the sprayer to a given area (100 Sq ft, 1 acre, etc.). Then mix the desired rate of Oryzalin 4 Pro in the amount of water required to cover the entire area to be treated. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to ensure proper calibration and uniform application. Maintain continuous agitation from mixing through application. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application.

Hand Held or Backpack Sprayer Application: The amount of water used to apply Oryzalin 4 Pro herbicide is not critical, but should be sufficient for uniform coverage of the target area. Calibrate by determining the volume of water required to treat 1,000 square feet. Use this calibration volume to determine the amount of water and Oryzalin 4 Pro herbicide needed to treat the target area (see the following calibration example). Note: Sprayer calibration (volume of spray needed to treat 1,000 square feet) will vary with each individual operator.

Steps in Calibration

1. Mark an area of 1,000 square feet (i.e. 20 by 50 feet, or 25 by 40).
2. Place the sprayer on a level surface and add water noting the final level of water in the spray tank.
3. Spray the marked area with a sufficient volume of water to provide uniform coverage. Refill the sprayer to the same level as before measuring the amount of water added. The measured water added to the sprayer is the volume needed to cover 1,000 square feet.
4. Determine the application rate (fl oz/1000 sq ft) for Oryzalin 4 Pro from the "Approved Uses" section of this label.
5. To each volume of water used, as measured in step 3, add the amount of Oryzalin 4 Pro as determined in step 4.

Example: If the sprayer used 2 gallons of water to cover 1,000 square feet and the desired application rate of Oryzalin 4 Pro is 3 fluid oz/1,000 square feet, then you would add 3 fluid ounces of Oryzalin 4 Pro to every 2 gallons of water to be used.

MIXING DIRECTIONS

Shake Well Before Using

Precaution: Do not allow the spray mixture to siphon back into water source.

Oryzalin 4 Pro-Alone

Make sure spray tank is clean and use only clean water. Fill spray tank 1/2 - 3/4 full. Start agitation and add the required amount of Oryzalin 4 Pro. Continue agitation and finish filling the spray tank. Maintain continuous agitation until application is completed.

Oryzalin 4 Pro-Tank Mix Combinations

Prior to mixing, read and carefully follow all label instructions and precautions for each product added to the tank mixture. Vigorous, continuous agitation is required for all tank mixes of Oryzalin 4 Pro. Sparger pipe agitators generally provide the best agitation in spray tanks.

Mixing Order: Fill the tank 3/4 full with clean water. Start agitation and add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products. Add different formulation types in the following order: dry flowables (DF); wettable powders (WP); Oryzalin 4 Pro and other aqueous suspensions (AS); flowables (F); liquids (L); solutions (S); and emulsifiable concentrates (EC).

Continue agitation and finish filling the spray tank with clean water. Maintain agitation until application is completed. If spraying and agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be completely resuspended before spraying is continued. A sparger agitator is particularly useful for this purpose.

Premixing: When tank mixing, initial mixing and dispersion of certain dry flowable or wettable powder products may be improved by premixing with water (slurrying). Adding the slurried material to the spray tank through a 20 or 35 mesh wetting screen will help assure good initial dispersion.

Equipment Cleaning

If a buildup of material occurs on the walls of the spray tank, it should be removed between fillings by washing with soap and water and rinsing thoroughly. Tanks, lines, screens, and nozzles should be cleaned thoroughly after each use.

Activation and Cultivation

Oryzalin 4 Pro will remain stable on the soil surface up to 21 days following application. In the absence of timely rainfall, irrigation can be used to activate Oryzalin 4 Pro. A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler irrigation is necessary to activate Oryzalin 4 Pro. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate 1-2 inches deep to destroy existing weeds, or remove them by hand. Shallow cultivation to a depth of 1-2 inches will enhance herbicidal effectiveness. If Oryzalin 4 Pro is not activated by rainfall, irrigation, or cultivation within 21 days of application, or existing weeds have not been removed, erratic weed control may result.

WEEDS CONTROLLED BY ORYZALIN 4 PRO

Annual Grasses

Common Name

Barley, little
 Barnyardgrass
 (watergrass)
 bluegrass, annual
 crabgrass, large
 crabgrass, smooth
 crowfootgrass
 cupgrass, southwestern
 foxtail, bristlegrass
 foxtail, giant
 foxtail, green
 (pigeongrass)
 foxtail, robust
 foxtail, yellow
 goosegrass
 (silver crabgrass)
 Johnsongrass
 (seeding only)
 junglerice
 lovegrass, Mexican
 lovegrass, orcutt
 oat, wild
 panicum, browntop
 panicum, fall
 (spreading panicgrass)
 panicum, Texas
 (buffalograss)
 (Coloradograss)

Scientific Name

Hordeum pusillum
 Echinochloa crus-galli

 Poa annua
 Digitaria sanguinalis
 Digitaria ischaemum
 Dactyloctenium aegyptium
 Eriochloa gracilis
 Setaria magna
 Setaria faberi
 Setaria viridis

 Setaria robusta
 Setaria glauca
 Eleusine indica

 Sorghum halepense

 Echinochloa colonum
 Eragrostis mexicana
 Eragrostis orcuttiana
 Avena fatua
 Panicum fasciculatum
 Panicum
 dichotomiflorum
 Panicum texanum

ryegrass, Italian
 signalgrass (Brachiaria)
 Sprangletop, red
 Witchgrass

Broadleaf Weeds

Common Name

bittercress
 carpetweed
 chickweed, common
 fiddleneck, coast
 filaree, redstem
 filaree, whitestem
 groundsel, common
 henbit
 knotweed, prostrate
 lambsquarters
 pigweed, prostrate
 pigweed, redroot
 pigweed, spring
 pigweed, tumble
 puncturevine
 purslane, common
 pulsey, Florida
 (Florida purslane)
 (Mexican clover)
 (pulsey)
 rocket, London
 rockpurslane, desert
 shepherdspurse
 spurge, prostrate
 woodsorrel, yellow

Cenchrus incertus
 Brachiaria spp.
 Leptochloa filiformis
 Panicum capillare

Scientific Name

Cardamine oligosperma
 Mollugo verticillata
 Stellaria media
 Amsinckia intermedia
 Erodium cicutarium
 Erodium moschatum
 Senecio vulgaris
 Lamium amplexicaule
 Polygonum aviculare
 Chenopodium album
 Amaranthus blitoides
 Amaranthus retroflexus
 Amaranthus hybridus
 Amaranthus albus
 Tribulus terrestris
 Portulaca oleracea
 Richardia scabra

Sisymbrium irio
 Calandrinia ciliata
 Capsella bursa-pastoris
 Euphorbia humistrata
 Oxalis stricta

WEEDS SURPRESSED BY ORYZALIN 4 PRO

Control of the following weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of germination, depth of seed in the soil, and amount and timing of soil moisture:

Common Name

horseweed
ladysthumb
lettuce, prickly
mallow, common
milkweed, climbing
morningglory
mustard, black
mustard, wild
nightshade, black
ragweed, common
smartweed
sowthistle, annual
spurge, spotted
teaweed (prickly sida)
velvetleaf
wheat, volunteer

Scientific Name

Conyza canadensis
Polygonum persicaria
Lactuca serriola
Malva neglecta
Sarcostemma cynanchoides
Ipomoea spp.
Brassica nigra
Brassica kaber
Solanum nigrum
Ambrosia artemisiifolia
Polygonum pensylvanicum
Sonchus oleraceus
Euphorbia maculata
Sida spinosa
Abutilon theophrasti
Triticum spp.

APPROVED USES

Ornamental Plantings

Oryzalin 4 Pro is recommended for use on certain landscape container- and field-grown established ornamental plants including: trees, shrubs, ground covers/perennials, flowers, non-bearing fruit and nut trees, non-bearing vineyards, and in the production of ornamental bulbs (See "Ornamental Bulbs" section for special use directions.)

Broadcast Application Rates

Labeled Use Site	Length of Control	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
Landscape Ornamentals	2-4 months	2	1.5	2	8
	3-6 months	3	2.2	4	12
	4-8 months	4	3	4	12
Field-grown and container-grown ornamentals	2-4 months	2	1.5	3	8
	3-6 months	3	2.2	3	9
	4-8 months	4	3	3	12

Tank Mix Combinations

Tank mix combinations of Oryzalin 4 Pro plus Roundup/Glyphosate, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Oryzalin 4 Pro may also be tank mixed with Gallery herbicide and applied preemergence to broaden the spectrum of broadleaf weed control in ornamental areas. Applied as directed, these tank mixes of Oryzalin 4 Pro will provide control of susceptible weed species listed on the respective labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Oryzalin 4 Pro Plus Roundup/Glyphosate: Tank mix combinations of Oryzalin 4 Pro plus Roundup are recommended to control existing undesirable vegetation. Applied as directed, Oryzalin 4 Pro plus Roundup will provide postemergence control of susceptible weed species listed on the label for Roundup and residual preemergence control of susceptible weed species listed on the label for Oryzalin 4 Pro. Refer to the label for Roundup for specific use directions, precautions, and limitations before use.

Precautions: Do not apply sprays containing Roundup over the top of ornamental plants. Extreme care must be exercised to prevent sprays containing Roundup from coming in contact with foliage and stems of turf-grasses, trees, shrubs, or other desirable vegetation since severe damage or death may result. If spraying with Roundup in areas adjacent to desirable plants, use a shield to prevent spray from contacting foliage and stems of desirable plants.

Special Use Precautions:

Apply only to established plants that have been transplanted into their growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

Rooted liners should be removed from their original growing containers and placed in new containers at least two weeks prior to treatment or injury may occur.

To avoid possible injury, do not apply Oryzalin 4 Pro to:

- Nursery, forest or Christmas trees: seedling beds, cutting beds, or transplant beds.
- Unrooted liners or cuttings that have been planted in pots for the first time.
- Pots less than four inches wide.
- Ground covers until they are established and well rooted.

- Ornamental plantings where there is likelihood of runoff onto lawn areas.
- Areas containing dichondra or cool season turfgrass species.

On container grown ornamentals where weed seed germination continues for extended periods of time, do not make repeat applications of Oryzalin 4 Pro for at least 90 days or crop injury may occur.

Application of Oryzalin 4 Pro over the top of plants with newly forming buds may cause injury. In this situation, a directed spray is recommended.

For soils treated with Oryzalin 4 Pro during the previous season, plant only the ornamental species listed on this label or injury may occur.

Ice Plant: When establishing unrooted ice plant on coarse-textured soils in landscaping plantings, do not exceed the 2 quart per acre rate of Oryzalin 4 Pro or crop injury may occur.

Note: Injury on the following plant species has been observed following applications of Oryzalin 4 Pro and use is not recommended:

Deutzia gracilis (slender deutzia)
Pseudotsuga menziesii (Douglas-fir)
Thuja occidentalis 'Techny' (Techny arborvitae)
Tsuga canadensis (eastern hemlock)
Begonia spp. (begonia)
Coleus hybridus (coleus)

Oryzalin 4 Pro may be used on the following established plant species:
(Note limitations on recommended treatment methods.)

TREES

Scientific Name

Common Name

**Recommended
Treatment Method**
F = Field Grown
C = Container Grown

Abies balsamea	Fir, balsam	F
Abies concolor	Fir, white	F
Abies fraseri	Fir, fraser	F
Abies grandis	Fir, grand	F
Abies veitchii	Fir, Vietch	F
Abies lasiocarpa	Fir, alpine	F
Abutilon hybridum	Albus-flowering Maple	F
	Luteus-flowering maple	F

	Roseus-flowering maple	F
	Tangerine-flowering maple	F
	Vesuvius red-flowering maple	F
Acer ginnmala	Flame maple	F
Acer rubrum	Red sunset maple	F
Acer saccharinum	Silver maple	F
Acer spp.	Maple	F
Alsophila australis	Australian tree fern	C, F
Areacastrum		
romanzoffianum	Queen palm	F
Betula nigra	Birch, river	F
Betula papyrifera	Paper birch	F
Betula pendula	Birch, white	F
Bucida buceras	Black olive	F
Carya spp.	Pecan, ornamental	C, F
Cedrus atlantica	Atlas cedar	C, F
Cedrus deodara	Deodar cedar	C, F
Ceratonia siliqua	Carob	F
Cercidium floridum	Palo Verde, blue	F
Cercis Canadensis	Redbud	C, F
Chamaecyparis		
lawsoniana	Falsecypress, Lawson	F
Chamaecyparis obtusa	Filicoides-fernspray cypress	F
	Gracilis-slender Hinoki cypress	F
Chamaecyparis pisifera	Sawara-false cypress	F
	Squarrosa-moss cypress	F
Chamaedorea		
cataractarum	Cat Palm	F
Chamaedorea		
costaricana	Palm	F
Chamaedorea elegans	parlor palm	F
Citrus spp.	Citrus, ornamental	C, F
Comus florida	Dogwood, flowering	F
Cryptomeria japonica	Cryptomeria, Japanese	C, F
Cupaniopsis		
anacardioides	Carrot Wood	F
Cupressus		
arizonica (glabra)	Cypress, Arizona	C, F
Cupressus glabra	Arizona cypress	C, F
Cupressocyparis		
leylandii	Leyland cypress	C, F
Cupressus		
sempervirens	Cypress, Italian	C, F
Dicksonia anarctica	Tasmanian tree fern	C, F
Elaeagnus angustifolia	Russian olive	C, F
Eucalyptus		
camaldulensis	Red gum eucalyptus	F

TREES

Scientific Name

Common Name

Eucalyptus cinerea	Eucalyptus, mealy	F
	Silver dollar eucalyptus	F
Eucalyptus nicholii	Eucalyptus, narrow-leaved	F
Eucalyptus sideroxylon	Eucalyptus, red ironbark	F
Ficus benjamina	Ficus	F
Fraxinus spp.	Ash	F
Ginkgo biloba	Ginkgo (Maidenhair tree)	C,F
Gleditsia triacanthos	Honey locust	F
Heteromeles arbutiflora	Toyon	F
Juniperus virginiana	Redcedar, Eastern	F
Koelreuteria paniculata	Goldenrain tree	F
Liquidambar styraciflua	Sweetgum, American	C,F
Magnolia spp.	Magnolia	F
Malus spp.	Crabapple	F
Morus alba	White mulberry	F
Picea abies	Pendula-weeping	F
	Norway Spruce	
	Repens-spreading	
	Norway Spruce	F
	Spruce, Norway	F
Picea englemanni	Spruce, Englemann	F
Picea glauca	Spruce, white	F
	Conica-dwarf Alberta spruce	F
Picea glauca conica	Dwarf Alberta spruce	F
Picea mariana	Spruce, black	F
Picea pungens	Glaucia-Colorado blue spruce	F
	Hoopsii-Hoop's blue spruce	F
	Koster-Koster blue spruce	F
	Spruce, Colorado	C,F
Pinus aristata	Bristlecone pine	F
Pinus canariensis	Canary Island pine	F
Pinus contorta	Shore pine, beach pine	F
Pinus eldarica	Eldarica pine	F
Pinus halepensis	Aleppo pine	C,F
Pinus radiata	Monterey pine	F
Pinus spp.	Pine	C,F
Pinus strobus	Eastern white pine	F
Pinus sylvestris	Scotch pine	F
Pinus thunbergiana	Japanese black pine	F
Platanus occidentalis	American sycamore	F
Platanus racemosa	California sycamore	F
Podocarpus spp.	Podocarpus	F
Populus deltoides	Cottonwood	F
	Cottonwood (grown for pulp)	F

Recommended

Treatment Method

F = Field Grown

C = Container Grown

Prunus caroliniana	Laurelcherry, Carolina	F
Prunus glandulosa	Dwarf flowering almond	C,F
Prunus laurocerasus	Laurelcherry, English	F
Prunus mahaleb	Cherry, Mahaleb	F
Prunus yedoensis	Yoshino flowering cherry	F
Pyrus communis	Pear	F
Quercus palustris	Pin oak	F
Quercus phellos	Willow oak	F
Quercus rubra	Red oak	C,F
Quercus spp.	Oak	C,F
Salix babylonica	Babylon weeping willow	F
	Corkscrew willow	F
Schinus molle	California pepper tree	F
Sequoia sempervirens	Redwood, coast	F
Sequoiadendron		
giganteum	Giant sequoia	F
Swietenia mahogani	Mahogany	F
Tabebuia caraiba	Yellow Tab	F
Tilia cordata	Linden, little leaf	C,F
Ulmus parvifolia	Chinese elm	F
Umbellularia californica	California laurel	F
Washingtonia robusta	Mexican fan palm	F

SHRUBS

Scientific Name

Common Name

Abelia grandiflora	Glossy abelia	F
Acacia redolens	Acacia, prostrate	F
Agave Americana	Century plant	F
Agave macroculmis	Agave	F
Anisodonteia		
hypomandarum	Cape mallow	C,F
Arctostaphylos		
stanfordiana	Manzanita, Stanford	F
Astilbe chinensis	Astilbe/false spirea	C,F
Baccharis pilularis	Coyotebush	F
Berberis thunbergii	Aurea-golden	
	Japanese barberry	C,F
	Crimson pygmy barberry	C,F
	Atropurea-redleaf	
	Japanese barberry	C,F
	Barberry, Japanese	C,F
Bougainvillea spp.	Barbara Karst	F
	California gold	F
	Scarlet O'Hara	F
	Texas Dawn	F

Recommended

Treatment Method

F = Field Grown

C = Container Grown

SHRUBS

<u>Scientific Name</u>	<u>Common Name</u>	<u>Recommended Treatment Method</u> F = Field Grown C = Container Grown			
Buxus microphylla	Littleleaf boxwood	F	Euonymus fortunei	Canadale gold euonymus	C,F
Buxus microphylla japonica	Boxwood, Japanese	C,F		Emerald'n gold euonymus	C,F
Buxus sempervirens	Boxwood, common	C,F		Euonymus, stringybark	C,F
Callistemon citrinus	Bottlebrush, lemon	C,F		Wintercreeper	C,F
Cassia artemisioides	Cassia, feathery	F	Euonymus japonica	Euonymus, evergreen	C,F
Ceanothus americanus	Jerseytea, redroot	C,F		Silver king euonymus	F
Ceanothus spp.	Wild lilac	C,F		Spreading euonymus	F
Chaenomeles japonica	Flowering quince	C,F	Euonymus kiatschovica	Bigleaf wintercreeper	C,F
Chamaecyparis obtusa	Kosteri cypress	F	Euonymus vegetus	Fatshedera	C,F
	Nana-dwarf Hinoki cypress	F	Fatsia japonica	Japanese aralia	C,F
	Torulosa cypress	F	Felicia amelloides	Blue marguerite	C,F
Chamaecyparis pisifera	Squarrosa Minima cypress	F	Forsythia intermedia	Forsythia, border	F
Chamaecyparis pisifera spp.	Filifera-thread cypress	F	Gardenia jasminoides	Gardenia	C,F
Chrysalidocarpus lutescens	Areca palm	F	Genista pilosa	Woadwaxen	F
Cleyera japonica	Cleyera, Japanese	C,F	Hibiscus rosa-sinesis	Ross Estey-hibiscus	F
Coleonema pulchrum	Pink breath of heaven	C,F		Hibiscus, Chinese	F
Comus alba	Sibirica-Siberian dogwood	C,F	Hibiscus syriacus	Rose of Sharon, Red Bird	F
Comus kousa	Dogwood, kousa	C,F		Rose of Sharon, Red Heart	F
Comus stolonifera	Flaviramea-yellowtwig dogwood	F		Rose of Sharon, Woodbridge	F
Cotoneaster adpressus	Praecox-early cotoneaster	F	Ilex aquifolium	Rose of Sharon (Shrubalthea)	F
Cotoneaster apiculatus	Cotoneaster, cranberry	C,F		Balkans holly	F
Cotoneaster buxifolius	Cotoneaster, brightbead	F		Gold coast holly	F
Cotoneaster congestus	Cotoneaster, Pyrenees	F	Ilex aquipemyi	Holly, English	F
Cotoneaster dammeri	Cotoneaster, bearberry	C,F		San Jose holly	C,F
Cotoneaster himalayan	Himalayan cotoneaster	F	Ilex cornuta	Dwarf Burford holly	C,F
Cotoneaster horizontalis	Cotoneaster, rock	C,F		Holly, Chinese	C,F
Cotoneaster lacteus	Cotoneaster, parney	C,F	Ilex crenata	Compacta-dwarf Japanese holly	C,F
Cotoneaster microphyllus	Cotoneaster, rockspray	F		Convexa holly	C,F
Cotoneaster salicifolia	Willowleaf cotoneaster	C,F		Helleri-Heller's Japanese holly	C,F
Cytisus praecox	Hollandia-warmminster broom	F	Ilex glabra	Holly, Japanese	C,F
Cytisus scoparius	Lena-Scotch broom	F	Ilex meserveae	Nordica-inkberry holly	F
Dasyliroon wheeleri	Sotol, desert spoon	F		Blue boy holly	F
Deutzia crenata	Nakiana-dwarf deutzia	F		Blue girl holly	F
Dodonaea viscosa	Hopseedbush, clammy	F	Ilex vomitoria	Ebony magic holly	F
	Hopseed bush	F		Nana-dwarf yaupon holly	C,F
Escallonia exoniensis	Escallonia	C,F		Pendula-weeping yaupon holly	C,F
Euonymus alata	Euonymus, winged	F		Yaupon holly	C,F
			Juniperus chinensis	Media-old gold juniper	C,F
			Juniperus conferta	Emerald sea shore juniper	F
			Juniperus horizontalis	Huntington blue juniper	C,F
				Wiltonii-blue carpet juniper	C,F
			Juniperus procumbens	Nana-dwarf Japanese garden juniper	C,F
			Juniperus prostrata	Prostrata juniper	C,F
			Juniperus sabina	Broadmoor juniper	F
				Foemina-Hicks juniper	F
				Tamariscifolia-Tam juniper	F
			Juniperus scopulorum	Emerald green juniper	F

SHRUBS

Scientific Name

Common Name

Recommended Treatment Method F = Field Grown C = Container Grown

Juniperus spp.	Juniper	C,F
Juniperus squamata	Blue juniper	F
	Blue star juniper	F
	Parsonii juniper	F
Justicia brandegeana	Shrimp plant	C,F
Justicia spicigera	Honeysuckle, Mexican	F
Kalmia latifolia	Laurel, mountain	F
Lagerstroemia indica	Crape myrtle	C,F
Lavandula angustifolia	English lavender	C,F
Leucothoe axillaris	Leucothoe, coast	F
Leucothoe fontanesiana	Leucothoe, drooping	F
Ligustrum amurense	Privet, amur	C,F
Ligustrum japonicum	Privet, Japanese	C,F
	Yellow tip ligustrum	C,F
Ligustrum lucidum	Privet, glossy	C,F
Ligustrum ovalifolium	California privet	F
Ligustrum texanum	Howardi privet	F
	Wax leaf privet	F
Ligustrum vicaryi	Privet, golden	C,F
	Vicary golden privet	C,F
Livistona chinensis	Chinese fountain palm	F
Lonicera fragrantissima	Winter honeysuckle	F
Lonicera periclymenum	Flowering woodbine	F
	Serotina woodbine	F
Lonicera sempervirens	Trumpet honeysuckle	F
Lorpetalum chinense	(No common name)	C,F
Mahonia aquifolium	Oregon grape	F
Myoporum parvifolium	Myoporum, prostrate	F
Myrtus communis	Myrtle, true	C,F
Nandina domestica	Compacta-dwarf	
	heavenly bamboo	C,F
	Harbour dwarf-	
	heavenly bamboo	C,F
	Heavenly bamboo (Nandina)	C,F
	Nana compacta-	
	heavenly bamboo	C,F
	Nana purpurea-	
	heavenly bamboo	C,F
	Woods dwarf-heavenly bamboo	C,F
Nerium oleander	Hardy red oleander	C,F
	Oleander	C,F
	Ruby lace oleander	C,F
Osmanthus heterophyllus	Osmanthus, holly-leaf	F

Pachysandra terminalis	Japanese spurge	C,F
Philadelphus spp.	Mockorange	C,F
Phoenix roeloenii	Pigmy date palm	F
Photinia fraseri	Fraser's photinia	C,F
	Photinia	C,F
Pieris japonica	Lily-of-the-valley	F
	Snowdrift lily-of-the-valley	F
	Temple bells lily-of-the-valley	F
	Valley rose lily-of-the-valley	F
	Andromeda	C,F
Pittosporum spp.	Pittosporum	C,F
Pittosporum tobira	Green pittosporum	F
	Japanese pittosporum	F
	Tibira	F
	Wheeler's dwarf pittosporum	F
Platycladus orientalis	Arborvitae, Oriental	C,F
Plumbago ariculata	Blue cape plumbago	F
Podocarpus macrophyllus	Yewpine	C,F
Potentilla fragiformis	Cinquefoil	F
Potentilla fruticosa	Cinquefoil	C,F
Protea neriifolia	Protea	F
Pyracantha coccinea	Firethorn, scarlet	C,F
Pyracantha fortuneana	Lolendei Monrovia pyracantha	C,F
Pyracantha fortuneana	Monon pyracantha	C,F
	Red elf hybrid pyracantha	C,F
	Rutgers hybrid pyracantha	C,F
	Santa Cruz pyracantha	C,F
	Victory pyracantha	C,F
Pyracantha skoidzumi	Firethorn, formosa	C,F
Pyracantha fortuneana	Firethorn	C,F
Rhaphiolepis indica	Enchantress-Moness	
	rhaphiolepis	F
	Rhaphiolepis (India hawthorn)	C,F
	Springtime-Monme rhaphiolepis	F
Rhaphiolepis ovata	Roundleaf rhaphiolepis	F
Rhipsalidopsis gaertneri	Eastercactus	C,F
Rhododendron calendulaceum	Flame azalea	F
Rhododendron campylocarpum	Butterfly rhododendron	F
Rhododendron carolinianum	PJM rhododendron	F
Rhododendron x daurium		
Rhododendron catawbiense	Catawba album rhododendron	C,F
	Catawba rhododendron	C,F
	Lord Roberts rhododendron	C,F
	Rocket rhododendron	C,F

SHRUBS

Scientific Name	Common Name	Recommended Treatment Method F = Field Grown C = Container Grown			
Rhododendron forrestii x griersonianum	Elizabeth rhododendron	F		Pyramidalis arborvitae	F
Rhododendron hybrid spp.	America rhododendron	F		Rheingold arborvitae	F
	English Roseum			Woodwardii arborvitae	F
	rhododendron	F	Thuja orientalis	Aureus nana-dwarf golden arborvitae	F
	Nova Zembla rhododendron	F		Minima glauca-dwarf arborvitae	F
	Scintillation rhododendron	F		Red Cedar, Western	F
Rhododendron impeditum	Rhododendron	F	Thuja plicata		
Rhododendron indica	Formosa azalea	C,F	Trachelospermum jasminoides	Star jasmine, Chinese	F
	Waucubusa azalea	C,F	Veitchia merrilli	Christmas palm	F
Rhododendron kerume	Coral bells azalea	C,F	Viburnum carlesii	Koreanspice viburnum	C,F
	Hino crimson azalea	C,F	Viburnum davidii	David viburnum	F
	Hino pink azalea	C,F	Viburnum japonicum	Viburnum	F
	Snow azalea	C,F	Viburnum judd (V X Judii)	Viburnum	C,F
Rhododendron maximum	Rhodie max (rosebay)	C,F	Viburnum opulus sterile	Common snowball viburnum	F
Rhododendron mucronulatum	Rhododendron	F	Viburnum plicatum		
Rhododendron satuski	Gumpo pink azalea	F	tomentosum	Doublefile viburnum	F
	Higasa azalea	F	Viburnum setigerum	Tea viburnum	F
Rhododendron spp.	Azalea	C,F	Viburnum suspensum	Viburnum Sandankwa	F
	Rhododendron	C,F	Viburnum tinus	Viburnum Laurustinus	C,F
Rhododendron spp. hybrids	Carror azalea	C,F		Compactum-spring bouquet viburnum	F
	Girard Roberta azalea	F	Viburnum tinus compactum	Spring bouquet viburnum	F
	Golden flare exbury azalea	F	Viburnum trilobum		
Rhus lancea	Sumac, African	C,F	Compactum	Dwarf cranberry bush	F
Rosa rugosa	Ramanas rose	F	Viburnum x pragensis	Viburnum	F
Rosmarinus officinalis	Rosemary	F	Weigela florida	Bristol ruby weigela	F
Senecio cineraria	Dusty miller	C,F		Java red weigela	F
Spiraea vanhouttei	Bridal wreath	F		Minuet weigela	F
Syringa vulgaris	Lilac, common	C,F	Xylosma congestum	Weigela, oldfashioned	F
Syzygium paniculata	Brush cherry	C,F	Yucca elata	Xylosma	F
Taxus cuspidate	Yew, Japanese	F	Yucca recurvifolia	Yucca soaptree	C,F
Taxus media	Yew	F		Yucca pendulosa	F
Thuja occidentalis	Arborvitae, American	C,F			
	Emerald arborvitae	F			
	Globosa-globe arborvitae	F			
	Little giant—dwarf arborvitae	F			
	Nigra-dark American arborvitae	F			

GROUNDCOVERS/PERENNIALS

Scientific Name	Common Name	Recommended Treatment Method F = Field Grown C = Container Grown
Agapanthus africanus	Lily-of-the-Nile	C,F
Ajuga spp.	Carpet bugle	F
Arctotheca calendula	Cape weed	F
Asparagus retrofractus	(No common name)	C,F
Asparagus varieegata	Tree fern	C,F
Aster novae-angliae	New England aster	C,F

<u>Scientific Name</u>	<u>Common Name</u>
Aster novi-belgii	New York aster
Athyrium nipponicum	Japanese painter fern
Brassica oleracea	Wild cabbage
Callistephus chinensis	China Aster
Campanula elatines	Bellflower
Carpobrotus edulis	Ice plant, largeleaf (see label)
Clytostoma callistegiodes	Trumpet vine, violet
Cortaderia selloana	Pampas grass
Cuphea hyssopifolia	False Mexican heather
Delosperma alba	White iceplant
Dietes vegeta	Fortnight lily
Digitalis mertonensis	Foxglove
Doronicum cordatum	Leopard's bane
Drosanthemum floribundum	Trailing rosea iceplant
Erianthus ravennae	Hardy pampus grass
Festuca ovina glauca	Blue fescue
Gaillardia grandiflora	Blanket flower
Gazania rigens leucolaena	Gazania, trailing
Gazania spp.	Gazania
Hedera canariensis	Ivy, Algerian
Hedera helix	Ivy, English
Heliotropium fragrans	Common heliotrope
Mercurialis spp.	Daylily
Hosta lancifolia	Albo-marginata hosta
Hosta spp.	Lily, plantain
Heuchera micrantha	Coral bells
Hypericum spp.	St. Johnswort
Iberis sempervirens	Evergreen candytuff
Lampranthus spectabilis	Trailing iceplant
Leptospermum scaparium	New Zealand teatree/Manuka
Limonium perezi	Statice/Sea lavender
Liriope gigantean	White lily turf
Liriope muscari	Lilac beauty lily turf
	Majestic lily turf
	Monroe white lily turf
	Silvery sunproof lily turf
	Variegated liriope lily turf
	Big blue lily turf
Lobelia erinus	Edging lobelia

[illegible]

<i>Loniceria japonica</i>	Honeysuckle, Japanese	F
<i>Mesembryanthemum crystallinum</i>	Ice plant (see label)	F
<i>Ophiopogon japonicus</i>	Mondo grass	F
<i>Osteospermum fruticosum</i>	Daisy, trailing African	F
<i>Pachysandra terminalis</i>	Japanese spurge	F
<i>Pennisetum setaceum</i>	Fountaingrass	C,F
<i>Polystichum polyblepharum</i>	Tassel fern	C,F
<i>Sedum brevifolium</i>	Stoncrop	C,F
<i>Sedum kamtschaticum</i>	Stoncrop	C,F
<i>Sedum spurius</i>	Stoncrop, two row	C,F
<i>Tulbaghia violacea</i>	Society garlic	C,F
<i>Verberna rigida</i>	Veined verberna	C,F
<i>Veronica</i> spp.	Speedwell	C,F
<i>Vinca major</i>	Periwinkle, bigleaf	F
<i>Vinca minor</i>	Periwinkle, dwarf	F

<u>Scientific Name</u>	<u>Common Name</u>
Achillea spp.	Yarrow
Antirrhinum majus	Snapdragon
Caladium bicolor	Caladium, fancy leaved
Chrysanthemum spp.	Chrysanthemum
Coreopsis lanceolata	Coreopsis
Coreopsis verticillata	Threadleaf coreopsis
Dianthus barbatus	Sweet William
Dianthus	
gratianopolitanus	Cheddar pink
Dicentra spectabilis	Bleeding heart
Dimorphotheca spp.	Margold, cape
Echinacea purpurea	Coneflower, purple
Evolvulus nuttallianus	Blue daze
Geum quellyon	Geum
Gladiolus hortulanus	Gladiolus
Gypsophila paniculata	Baby's breath
Impatiens wallerana	Impatiens (Busy lizzie)
Iris spp.	Iris, bearded
Liatris spicata	Blazing star
Pelargonium hortorum	Geranium
Petunia spp.	Petunia
Portulaca grandiflora	Moss, rose
Ranunculus asiaticus	Ranunculus, Persian

C,F
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C,F
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C,F
F

C,F
C,F
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Scientific Name

Salvia spp.
Stokesia laevis
Strelitzia reginae
Tagetes spp.
Viola wittrockiana
Zinnia elegans

Rose
Blackeyed susan
Daisy, gloriosa
(black-eyed Susan)
Salvia (Sage)
Aster, stokes
Bird of paradise
Marigold
Pansy
Zinnia, common

Crop

- Almond
- Apple
- Apricot
- Avocado
- Blackberry
- Blueberry
- Boysenberry
- Cherry, sour
- Cherry, sweet
- Currant
- Dewberry
- Elderberry
- Fig
- Filbert
- Gooseberry
- Grape, American
- Grape, European
- Grapefruit
- Kiwi
- Kumquat
- Lemon
- Loganberry
- Macadamia nut
- Nectarine
- Olive
- Orange
- Peach

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C,F
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Pear	F
Pecan	C,F
Pistachio	F
Plum	F
Pomegranate	F
Prune	F
Raspberry	F
Walnut, black	F
Walnut, English	F

*Non-bearing plants are defined as those that will not bear fruit for at least one year after treatment.

Ornamental Bulbs

Oryzalin 4 Pro may be applied for control of susceptible annual weeds in ornamental bulbs, e.g. bulbous iris, daffodil (narcissus), hyacinth, and tulip. Apply Oryzalin 4 Pro to the soil surface 2-4 weeks after planting, but prior to the emergence of annual weeds. For fall planted bulbs, apply Oryzalin 4 Pro again in late winter or early spring to weed-free soil surfaces.

Broadcast Application Rates

Time of Application	Soil Texture	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
Fall	Coarse	0.75	0.5	3	1.5
Fall	Medium and Fine	1.5	1.0	3	2.25
Feb-March	All Soil Textures	0.75	0.5	3	2.25

Special Use Precautions

Do not apply to tulip plants that have emerged to a height greater than 3/4 inch.
Do not apply to gladioli corms prior to emergence or less than one (1) inch in diameter.

Shadehouse Areas

Oryzalin 4 Pro may be applied to drainage areas under benches in open shade-house-type structures where the natural flow of air is unimpeded. Do not apply in enclosed greenhouses or in enclosed shadehouse type structures. Do not apply within 3 weeks prior to enclosure of greenhouse or poly-type structures.

Christmas Tree Plantations

Oryzalin 4 Pro alone

Apply Oryzalin 4 Pro as a directed spray to the soil surface or as an overtop spray to established plantings of field grown Christmas tree species, including fir (*Abies* spp.), Pine (*Pinus* spp.), and spruce (*Picea* spp.). Follow all instructions provided in the "General Information" section of this label.

Broadcast Application Rates

Length of control	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
2-4 months	2	1.5	2	8
4-8 months	4	3	2	8

Tank Mix Combinations

Tank mix combinations of Oryzalin 4 Pro plus other labeled herbicides may be used as directed sprays or overlap sprays in established Christmas tree plantings. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Oryzalin 4 Pro Plus Roundup/Glyphosate: Apply tank mix combinations of Oryzalin 4 Pro plus Roundup only as directed sprays in Christmas tree plantings. When applied according to use directions, Oryzalin 4 Pro plus Roundup will provide postemergence control of susceptible weed species listed on the label for Roundup and residual preemergence control of susceptible weed species listed on the label for Oryzalin 4 Pro. Refer to the label for Roundup for specific use directions, precautions, and limitations before use.

Special Use Precautions

Do not apply to Douglas-fir (*Pseudotsuga menziesii*). Do not apply to seedbeds or seedling transplant beds. Apply only to established plants that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

NONCROPLAND AREAS AND INDUSTRIAL SITES

Noncropland Areas—Tank Mix Combinations

Tank mix combinations of Oryzalin 4 Pro plus Roundup/Glyphosate and many other labeled herbicides may be used to control undesirable vegetation in non-cropland areas such as roadsides, rights-of-way, etc. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Broadcast Application Rates

Length of control	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
2-4 months	2	1.5	2	6
4-8 months	4	3	4	12
8-12 months	6	4.5	8	12

Industrial Sites—Tank Mix Combinations

Tank mix combinations of Oryzalin 4 Pro plus Roundup, Spike® herbicide, and many other labeled herbicides may be used as overlap sprays to control existing vegetation on industrial sites such as utility substations, highway guard rails, sign posts, and delineators. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions, and limitations before use.

Warm Season Turfgrasses

Oryzalin 4 Pro may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass, zoysiagrass, and established tall fescue growing in warm season areas.

Established turf is defined as a dense turf having a well-anchored root system and healthy vigorous top growth. Use Oryzalin 4 Pro only as a part of a total turf management program that includes good fertilization practices.

Oryzalin 4 Pro may be tank mixed with Gallery® herbicide (California registration pending) and applied preemergence to broaden the spectrum of broadleaf weed control in warm season turf. Refer to the label for Gallery for specific use directions, precautions, and limitations before use.

Any cultural practices that disturb the soil, such as aerification or verticutting, should be done prior to application of Oryzalin 4 Pro.

Oryzalin 4 Pro will not control emerged weeds. Successful preemergence control of weeds listed on this label requires that Oryzalin 4 Pro be applied prior to weed germination and be activated by at least one-half (1/2) inch of rainfall or irrigation within 21 days of application.

Oryzalin 4 Pro may injure turf that is not well-established or is stressed or weakened due to unfavorable winter climatic conditions, drought, nematodes, or other factors which damage or weaken turf root systems. Apply Oryzalin 4 Pro only to healthy, well-established turf that has a well-anchored root system.

Do not apply Oryzalin 4 Pro in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan® 2.5G granular herbicide at 60-80 pounds per acre in early summer (Round 1) and Oryzalin 4 Pro at 1.5 quarts per acre approximately eight weeks later (Round 2). Do not apply Oryzalin 4 Pro at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of Oryzalin 4 Pro in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

In Bermudagrass areas that have been overseeded with winter grasses, a spring application of Oryzalin 4 Pro will thin the overseeded grasses.

Annual Grasses Controlled by Oryzalin 4 Pro Summer Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
Barnyardgrass (watergrass)	Echinochloa crus-galli
Crabgrass, large	Digitaria sanguinalis
Crabgrass, smooth	Digitaria ischaemum
Crabgrass	Digitaria spp.
Crowfootgrass	Dactyloctenium aegyptium
Foxtail, bristleglass	Setaria magna
Foxtail, giant	Setaria faberi
Foxtail, green (pigeongrass)	Setaria viridis
Foxtail, robust	Setaria robusta
Foxtail, yellow	Setaria glauca
Goosegrass (silver crabgrass)	Eleusine indica
Johnsongrass (seedling only)	Sorghum halepense
Ryegrass, Italian	Lolium multiflorum
Sandbur, field	Cenchrus incertus

Winter Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
Bluegrass, annual	Poa annua

Annual Broadleaf Weeds Controlled by Oryzalin 4 Pro Summer Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
Carpetweed	Mollugo verticillata
Knotweed, prostrate	Polygonum aviculare
Purslane, common	Portulaca oleracea

Winter Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
Chickweed, common	Stellaria media
Henbit	Lamium amplexicaule

Broadleaf Weeds Suppressed by Oryzalin 4 Pro

<u>Common Name</u>	<u>Scientific Name</u>
Groundsel, common	Senecio vulgaris
Spurge, prostrate	Euphorbia humistrata
Woodsorrel, yellow	Oxalis stricta

Application Rates, Frequency, and Timing of Application

Oryzalin 4 Pro can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for annual bluegrass (Poa annua) and winter annual broadleaf weed control.

Broadcast Application Rates (Warm Season Turfgrasses)

Use Area	Oryzalin 4 Pro (qt/acre)	Oryzalin 4 Pro (fl oz/1000sq ft)	Minimum Time Between Applications (Months)	Total Amount Allowed Per Year (qt/acre)
All except Florida	1.5 to 2	1.5 to 1	3	6
Florida	1.5	1	3	4.5

1. Summer Annual Grasses and Broadleaf Weeds

Single Application Program: Apply 2 quarts per acre of Oryzalin 4 Pro in late winter or early spring, prior to the onset of conditions favorable for annual weed germination.

Split Application Program: As an alternative to a single application program, Oryzalin 4 Pro may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 1.5 quarts per acre of Oryzalin 4 Pro in an initial application, followed by a second application of 1.5 quarts per acre 8-10 weeks later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial application of Oryzalin 4 Pro.

2. Annual Bluegrass (Poa annua) and Winter Annual Broadleaf Weeds

In areas of heavy annual bluegrass infestation, its elimination will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation, and soil-incorporated reseeding should be employed to speed the restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (see section on reseeding).

Apply Oryzalin 4 Pro as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply Oryzalin 4 Pro at 1.5 quarts per acre. If thinning of turfgrasses cover is not a potential problem, Oryzalin 4 Pro may be applied at 2 quarts per acre.

Weed Control in Florida

In Florida, apply 1.5 quarts per acre of Oryzalin 4 Pro three times per year, or every 90 – 100 days in the fall, early spring, and early summer. Do not apply more than 1.5 quarts per acre of Oryzalin 4 Pro in any single application.

Application Equipment

Apply Oryzalin 4 Pro evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results, use application equipment designed to uniformly broadcast liquid herbicides. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing spray uniformly.

Reseeding

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days following application or Oryzalin 4 Pro. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation, and fertilization be followed. For satisfactory reseeding results following use of Oryzalin 4 Pro the seeding rate should be increased and equipment designed to place seed in full contact with soil (such as the Rogers Aero Seeder) should be employed.

Special Use Precautions

To avoid possible injury, do not apply Oryzalin 4 Pro to:

- Cool season turfgrass species
- Golf course putting greens and tees or lawns containing dichondra or cool season turfgrass species.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipede grass, or zoysiagrass until these turfgrasses are well-established and have well-anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well-established.
- Bermudagrass variety "Sun Turf" when tank mixed with atrazine.

IMPORTANT INFORMATION. READ BEFORE USING PRODUCT.

IMPORTANT: Read the information below before using this product. If the terms are not acceptable, you should return the unopened product container immediately for a complete refund.

LIMITED WARRANTY, TERMS OF SALE, AND LIMITATION OF LIABILITY

Upon purchase or use of this product, purchaser and user agree to the following terms:

Warranty: Vegetation Management, LLC (the "Company") warrants that this product conforms to the chemical description on the label in all material respects and is reasonably fit for the purpose referred to in the directions for use, subject to the exceptions noted below, which are beyond the Company's control. The Company makes no other representation or warranty, express or implied, concerning the product, including no implied warranty of merchantability or fitness for a particular purpose; no such warranty shall be implied by law, and no agent or representative is authorized to make any such warranty on the Company's behalf.

Terms of Sale: The Company's directions for use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, and the manner of use or application (including failure to adhere to label directions), all of which are beyond the Company's control. All such risks are assumed by the user.

Limitation of Liability: The exclusive remedy against the Company for any cause of action relating to the handling or use of this product is a claim for damages, and in no event shall damages or any other recovery of any kind exceed the price of the product which caused the alleged loss, damage, injury or other claim. Under no circumstances shall the Company be liable for any special, indirect, incidental or consequential damages of any kind, including loss of profits or income, and any such claims are hereby waived. Some states do not allow the exclusion or limitation of incidental or consequential damages.

The Company and the seller offer this product, and the purchaser and user accept this product, subject to the foregoing warranty, terms of sale and limitation of liability, which may be varied or modified only by an agreement in writing signed on behalf of the Company by an authorized representative.

Vegetation Management LLC
2901-12 Rivendell
Knoxville, TN 37922
030402

NET CONTENT 2.5 Gallons



VegetationTM Manager

ORYZALIN 4 PRO

Active Ingredient:

Oryzalin: 3,5-dinitro-N'N'-dipropylsulfanilamide	41.0%
INERT INGREDIENTS:	<u>59.0%</u>
TOTAL:	100.0%

EPA Reg. No. 72167-15-74477

EPA Est. No. 37429-GA-1

Contains 4 pounds of active ingredient per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

See inside booklet for complete Precautionary Statements, Directions for Use, and Conditions of Sale and Warranty.

**Manufactured for Vegetation Management LLC
2901-12 Rivendell
Knoxville, TN 37922**

Net contents: 2.5 gallons (9.48 liters)